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PATENT APPLICATION

ATTORNEY DOCKET NO. 200311035-2IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Vanish Talwar et al.

Confirmation No.: 3580

Application No.: 10/632,333

Examiner: Jeffrey R. Swearingen

Filing Date: July 31, 2003

Group Art Unit: 2109

Title: RESOURCE ALLOCATION MANAGEMENT IN INTERACTIVE GRID COMPUTING SYSTEMS

Mail Stop Appeal Brief-Patents  
Commissioner For Patents  
PO Box 1450  
Alexandria, VA 22313-1450

## TRANSMITTAL OF APPEAL BRIEF

Transmitted herewith is the Amended Appeal Brief in this application with respect to the Notice of Appeal filed on Feb. 27, 2008 and in response to the Notice of Non-Compliant Appeal Brief mailed March 28, 2008.

- ☐ The fee for filing this Appeal Brief is \$510.00 (37 CFR 41.20) which was paid \_\_\_\_\_
- ☒ No Additional Fee Required.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

- ☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month  
\$120☐ 2nd Month  
\$460☐ 3rd Month  
\$1050☐ 4th Month  
\$1640

- ☐ The extension fee has already been filed in this application.

- ☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of \$ 00. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

- ☐ A duplicate copy of this transmittal letter is enclosed.

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Respectfully submitted,

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Attorney Docket No.: 200311035-2

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Inventor(s):** Vanish Talwar et al. **Confirmation No.:** 3580  
**Serial No.:** 10/632,333 **Examiner:** Jeffrey R. Swearingen  
**Filed:** July 31, 2003 **Group Art Unit:** 2109  
**Title:** RESOURCE ALLOCATION MANAGEMENT IN INTERACTIVE GRID  
COMPUTING SYSTEMS

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDED APPEAL BRIEF - PATENTS**

Sir:

This is an Amended Appeal Brief in response to the Notification of Non-Compliant Appeal Brief dated March 28, 2008. As required by the aforementioned Notification, this Amended Appeal Brief makes reference to the originally-filed specification in the Summary of Claimed Subject Matter.

This is an Appeal Brief in connection with the decisions of the Examiner in a Final Office Action dated October 30, 2007. Each of the topics required in an Appeal Brief and a Table of Contents are presented herewith and labeled appropriately.

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**(1) Real Party In Interest**

The real party in interest is Hewlett-Packard Development Company, L.P.

**(2) Related Appeals And Interferences**

There are no other appeals or interferences related to this case.

**(3) Status Of Claims**

Claims 13 and 14 have been canceled. Claims 1-12 and 15-20 are pending and rejected.

All pending claims 1-12 and 15-20 are hereby appealed.

**(4) Status of Amendments**

No amendment was filed subsequent to the Final Office Action dated October 30, 2007.

**(5) Summary Of Claimed Subject Matter**

It should be understood that the citations below are merely exemplary and do not limit the claimed features to only those citations.

**According to an embodiment in claim 1**, there is provided a method for resource allocation management for an interactive session on a grid computing system, comprising:

receiving a user request for an interactive session (pg. 8 line 33; FIG. 2 at 210);

identifying any application programs needed to be launched in said interactive session (pg.6 line 5 and pg. 8 line 33);

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determining resource requirements for said interactive session including processor, network bandwidth, executables and files requirements (pg.6 line 5; FIG. 3 at 304);

generating a contract for the interactive session specifying resource allocations and authorizations (pg.6 line 5 and pg. 8 line 33; FIG. 3 at 308); and

allocating resources for the interactive session in accordance with the contract (pg. 8 line 33).

**According to another embodiment in claim 5**, which depends on claim 1, the step of generating the contract includes generating an authorization policy and a service level agreement (pg. 6 line 27; FIG. 3 at 308).

**According to another embodiment in claim 8**, there is provided a system for managing resource allocation for an interactive session on a grid computing system, the system comprising:

one or more processors (pg. 9 line 7; FIG. 4 at 401);

one or more memories coupled to the one or more processors (pg. 9 line 7; FIG. 4 at 420); and

the program instructions stored in the one or more memories, the one or more processors for executing program instructions including:

receiving a user request for the interactive session (pg. 8 line 33; FIG. 2 at 210);

identifying applications to be launched in the interactive session (pg.6 line 5 and pg. 8 line 33);

determining resource requirements for the interactive session including processor, network bandwidth, executables and files requirements (pg.6 line 5; FIG. 3 at 304);

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generating a contract for the interactive session specifying resource allocations and authorizations (pg.6 line 5 and pg. 8 line 33; FIG. 3 at 308); and

allocating resources for the interactive session in accordance with the contract (pg. 8 line 33).

**According to another embodiment in claim 15**, there is provided a system for managing resource allocation for an interactive session on a grid computing system, comprising:

a distributed resource management node, the distributed resource management node including a distributed resource management interface and a grid scheduler, the grid scheduler configured to receive a user request and output an admission control decision (pg. 5 line 24 to pg. 6 line 4; FIG. 1 at 110);

a contract generation engine coupled to the distributed resource management node, the contract generation engine configured to determine resource requirements for the interactive session, and generate a contract specifying resource allocations and authorizations; and a contract repository configured to store the contract (pg.5 line 24; FIG. 2 at 200).

**According to additional embodiments in claims 19 and 20**, which depend on claims 8 and 15, respectively, the contract includes a service level agreement (pg. 6 line 27).

**(6) Grounds of Rejection to be Reviewed on Appeal**

a) Whether claims 1, 3, 5-8, 10, 12, 15, 17, 19, and 20 were properly rejected under 35 U.S.C. §102(e) as being anticipated by Naik et al. (2006/0294238).

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b) Whether claims 2, 9, and 16 were properly rejected under 35 U.S.C. §103(a) as being unpatentable over Naik et al. in view of Berstis (Redbooks Paper: Fundamentals of Grid Computing, IBM, by Viktor Berstis).

c) Whether claims 4, 11, and 18 were properly rejected under 35 U.S.C. §103(a) as being unpatentable over Naik et al. in view of McKinnon, III et al. (6,823,385).

**(7) Arguments**

**A. The rejection of claims 1, 3, 5-8, 10, 12, 15, 17, 19, and 20 under 35 U.S.C. § 102(c) as being anticipated by Naik et al. should be reversed**

The rejection of claims 1, 3, 5-8, 10, 12, 15, 17, 19, and 20 should be reversed because Naik et al. fails to disclose each and every element arranged as stated in the claimed invention. Particularly, Naik et al. fails to disclose at least "receiving a user request for an *interactive session*," "identifying *any application programs* needed to be launched in said interactive session," and generating "a *service level agreement*" or SLA. (Emphasis added).

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:



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Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

Independent claims 1 and 8

Claims 1 and 8 recite, "receiving a user request for an *interactive session*;" (emphasis added). In the Final Office Action at paragraph 7, the examiner cited to Naik et al., parag. [0070] and alleged that a client request for service is the claimed interactive session. It is respectfully submitted that Parag. [0070] in Naik et al. merely discusses grid clients sending their requests to a single address for services without detailing how such requests are sent. Indeed, Naik et al. does not indicate that the client requests are sent by way of interactive sessions. For example, the client requests in Naik et al. can be one-way instructions from the client to the grid system without the need for interactive sessions. As understood in the art and explained in II. 7-22, p. 4 of the specification, an interactive session is an association between an end-user and a remote execution node, wherein the end-user interacts with the remote execution node and applications launched therein. Thus, an interactive session requires an interaction, i.e., an exchange of actions, between two entities. In Naik et al., as discussed in its parag. [0070], only one-way action is provided from a grid client to a grid system to request a service; thus, such a one-way action cannot be deemed an interactive session.



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In the Response to Arguments section of the Final Office Action at paragraph 2, the examiner alleged that the clients sending service requests for a specific QoS level, as discussed in parag. [0070] of Naik et al., is a user request for an interactive session as claimed. The examiner also alleged that Naik et al. discloses interactive sessions in parag. [0074].

As understood by one skilled in the art, a QoS level, or Quality of Service level, refers to the level of quality that is to be achieved for a service rendered. See, for example, paragraph [0063] of Naik et al. Thus, a service request for a specific QoS level, as discussed in parag. [0070] of Naik et al. with reference to grid services, merely refers to a request for a specific QoS level of some grid service. Without a clear showing in Naik et al. that the specific QoS level requested is for a grid service that involves an interactive session, the examiner cannot properly assert that a service request for a *specific QoS level* in Naik et al. is a user request for *an interactive session*. Nevertheless, the examiner insisted that Naik et al. discloses interactive sessions in parag. [0074]. Indeed, parag. [0074] of Naik et al. discusses the use of a interactive workstation to perform an interactive computation or service. Arguably, this discussion implies an interactive session, as alleged by the examiner. However, such a discussion must be viewed in its context. It is respectfully submitted that parag. [0074] of Naik et al. clearly differentiates two types of service or computation: an interactive service or computation (for an interactive session as the examiner alleged) and a grid service or computation (for which there is no discussion in Naik et al. of the use of an interactive session). Parag. [0074] goes on to discuss the *interactive service or computation* (the examiner-alleged interactive session) at the interactive workstation.

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In contrast, as noted above, parag. [0070] of Naik et al. discusses *grid* clients sending service requests for a specific QoS level of a *grid service*. Yet, the examiner combined these two separate discussions of two distinct services in parags. [0070] and [0074] of Naik et al. into one so as to fit the rejection to the claimed language. It is respectfully submitted that such a hindsight combination is not intended in Naik et al. As noted above, anticipation under 35 U.S.C. § 102 requires a disclosure in the prior art reference of "each and every element of the claimed invention, *arranged as in the claim*." (Emphasis added). That is, mere disclosure of all claimed elements in a reference is not enough for anticipation without additional disclosure in the same reference of the claimed arrangement(s) of those elements. Otherwise, any reference that results from mere word searches of claimed elements may be used to anticipate the claimed invention.

Claims 1 and 8 also recite, "identifying *any application programs* needed to be launched in said interactive session;" (emphasis added). In the Final Office Action at paragraph 7, the examiner cited to Naik et al., parag. [0110] and [0111] and alleged that grid services as offered by the grid system are the claimed application programs. However, parag. [0110] in Naik et al. provides examples of grid services as actual services. While it may be true that such grid services in Naik et al. may be provided by application programs, Naik et al. provides no specific discussion of identifying the particular application programs needed to be launched in an interactive session, which is not discussed in Naik et al. at all in the context of a grid computation service or environment as noted earlier.

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In the Response to Arguments section in the Final Office Action at paragraph 3, the examiner insisted that the type of service requested by a grid client, as discussed in parag. [0070] of Naik et al., is the identification of application programs to be launched in an interactive session. Once again, a general discussion of a service in Naik et al. does not specifically give reference application programs to be launched in an interactive session. Otherwise, it is akin to using a general discussion of an employee at the USPTO to specifically give reference to a patent examiner at the USPTO, when such an employee may be a Legal Instrument Examiner, a trademark attorney at the USPTO, or even a member of the BPAI.

Independent claim 15

Claim 15 recites, "...managing resource allocation for an *interactive session*..." and "...resource requirements for the *interactive session*..." Thus, Naik et al. also fails to show such claimed features for an interactive session, as noted above for Claims 1 and 8.

Dependent claims 5, 19, and 20

Dependent Claims 5, 19, and 20 are allowable for at least the reasons set forth above for their respective independent Claims 1, 8, and 15. Furthermore, Naik et al. fails to disclose additional elements recited in Claims 5 and new Claims 19 and 20 because Naik et al. provides no discussion of generating a service level agreement (SLA) as claimed. A SLA is well defined and well understood in the art to indicate an actual service contract that includes terms for the level of service. Therefore, resource policies in Naik et al. cannot be alleged to be SLAs.

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The aforementioned arguments were presented in a previous Amendment/Response dated August 22, 2007. However, the examiner did not address such arguments in the Final Office Action and merely repeated the rejection language found in the earlier Office Action dated April 23, 2007. While the examiner is free to give the claims their broadest reasonable interpretation in light of the supporting disclosure, the examiner does not have latitude to interpret the claim language (such as the term "SLA") beyond what is commonly understood in the art, which is relied on by the disclosure.

*Naik et al. does not anticipate the claimed invention*

Because Naik et al. fails to disclose each and every element arranged as claimed in claims 1, 5, 8, 15, 19, and 20, it is respectfully submitted that Naik et al. fails to anticipate such claims and their respective dependent claims. Accordingly, withdrawal of the rejection of Claims 1-12 and 15-20 and their allowance are respectfully requested.

**B. The rejection of claims 2, 9, and 16 under 35 U.S.C. §103(a) as being unpatentable over Naik et al. in view of Berstis should be reversed**

It is respectfully submitted that for the reasons set forth earlier with respect to independent claims 1, 8, and 15, their respective dependent claims 2, 9, and 16 are not anticipated by Naik et al. In addition, the Final Office Action did not rely upon Berstis to make up for the deficiencies in Naik et al. Indeed, Berstis makes no mention of *an interactive session* or *application programs* to be launched in such an interactive session.

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Accordingly, it is respectfully submitted that the Final Office Action failed to establish a *prima facie* case of obviousness against claims 2, 9, and 16. Therefore, reversal of the rejection of these claims and their allowance are respectfully requested.

**C. The rejection of claims 4, 11, and 18 under 35 U.S.C. §103(a) as being unpatentable over Naik et al. in view of McKinnon, III et al. should be reversed**

It is respectfully submitted that for at least the reasons set forth earlier with respect to independent claims 1, 8, and 15, their respective dependent claims 4, 11, and 18 are not anticipated by Naik et al. In addition, the Final Office Action did not rely upon McKinnon, III et al. to make up for the deficiencies in Naik et al. Indeed, McKinnon III et al. makes no mention of *an interactive session or application programs* to be launched in such an interactive session.

Accordingly, it is respectfully submitted that the Final Office Action failed to establish a *prima facie* case of obviousness against claims 4, 11, and 18. Therefore, reversal of the rejection of these claims and their allowance are respectfully requested.

**(8) Conclusion**

For at least the reasons given above, the rejections of claims 1-12 and 15-20 are improper. Accordingly, it is respectfully requested that such rejections by the Examiner be reversed and these claims be allowed. Attached below for the Board's convenience is an Appendix of claims 1-12 and 15-20 as currently pending.

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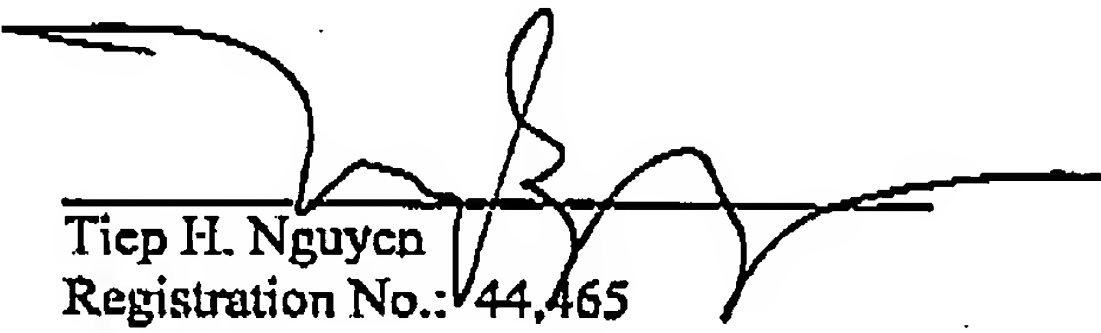
App. Scr. No.: 10/632,333

Please grant any required extensions of time and charge any fees due in connection with this Appeal Brief to deposit account no. 08-2025.

Respectfully submitted,

Dated: April 10, 2008

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**(9) Claim Appendix**

1. (Original) A method for resource allocation management for an interactive session on a grid computing system, comprising:

receiving a user request for an interactive session;

identifying any application programs needed to be launched in said interactive session;

determining resource requirements for said interactive session including processor, network bandwidth, executables and files requirements;

generating a contract for the interactive session specifying resource allocations and authorizations; and

allocating resources for the interactive session in accordance with the contract.

2. (Previously Presented) The method of claim 1, wherein:

the step of identifying application programs to be launched in the interactive session includes consulting a user directory to identify application programs which the user is authorized to use.

3. (Previously Presented) The method of claim 1, wherein:

the step of determining resource requirements includes consulting one or more application profile files which provide information concerning the resource requirements for individual applications.



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4. (Previously Presented) The method of claim 1, wherein:

the step of determining resource requirements includes identifying a user class to which the a user belongs and consulting one or more user class authorization policy files to determine resource allocation policies for the user's user class.

5. (Original) The method of claim 1, wherein:

the step of generating said contract includes generating an authorization policy and a service level agreement.

6. (Previously Presented) The method of claim 1, further comprising:

monitoring the interactive session to ensure compliance with terms of the contract.

7. (Original) The method of claim 1, wherein:

the step of allocating resources for the interactive session is performed by a grid scheduler which receives the user request and the contract.

8. (Previously Presented) A system for managing resource allocation for an interactive session on a grid computing system, the system comprising:

one or more processors;

one or more memories coupled to the one or more processors; and

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the program instructions stored in the one or more memories, the one or more processors for executing program instructions including:

- receiving a user request for the interactive session;
- identifying applications to be launched in the interactive session;
- determining resource requirements for the interactive session including processor, network bandwidth, executables and files requirements;
- generating a contract for the interactive session specifying resource allocations and authorizations; and
- allocating resources for the interactive session in accordance with the contract.

9. (Original) The system of claim 8, further comprising:

a user directory which includes for each user a list of applications which the user is authorized to use.

10. (Original) The system of claim 8, further comprising:

an application profiles repository for providing information concerning resource requirements for individual applications.

11. (Original) The system of claim 8, further comprising:

a user class authorization policy repository for providing resource allocation policies for different user classes.

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12. (Original) The system of claim 8, further comprising:

a grid scheduler which receives the user request and the contract and performs the step of allocating resources for the interactive session.

13-14. (Canceled).

15. (Original) A system for managing resource allocation for an interactive session on a grid computing system, comprising:

a distributed resource management node, the distributed resource management node including a distributed resource management interface and a grid scheduler, the grid scheduler configured to receive a user request and output an admission control decision;

a contract generation engine coupled to the distributed resource management node, the contract generation engine configured to determine resource requirements for the interactive session, and generate a contract specifying resource allocations and authorizations; and a contract repository configured to store the contract.

16. (Original) The system of claim 15, further comprising:

a user directory which includes for each user a list of applications which the user is authorized to use.

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17. (Previously Presented) The system of claim 15, further comprising:

an application profiles repository, for providing the resource requirements information for individual applications.

18. (Original) The system of claim 15,, further comprising:

a user class authorization policy repository for providing resource allocation policies for different user classes.

19. (Previously Presented) The system of claim 8, wherein the contract includes a service level agreement.

20. (Previously Presented) The system of claim 15, wherein the contract includes a service level agreement.

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**(10) Evidence Appendix**

None.

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**(11) Related Proceedings Appendix**

None.